

# 2001 Wind Energy Conference

Jim Burg, Chairman  
SD Public Utilities Commission

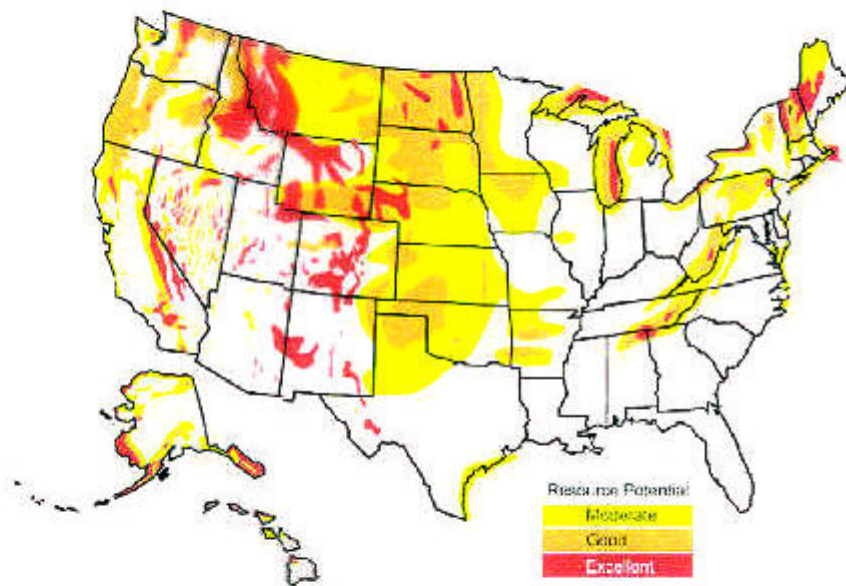




# Wind Energy Resources

Rank	State
1	North Dakota
2	Texas
3	Kansas
4	South Dakota
5	Montana
6	Nebraska
7	Wyoming
8	Oklahoma
9	Minnesota
10	Iowa
11	Colorado
12	New Mexico
13	Idaho
14	Michigan
15	New York
16	Illinois
17	California

Source: AWEA



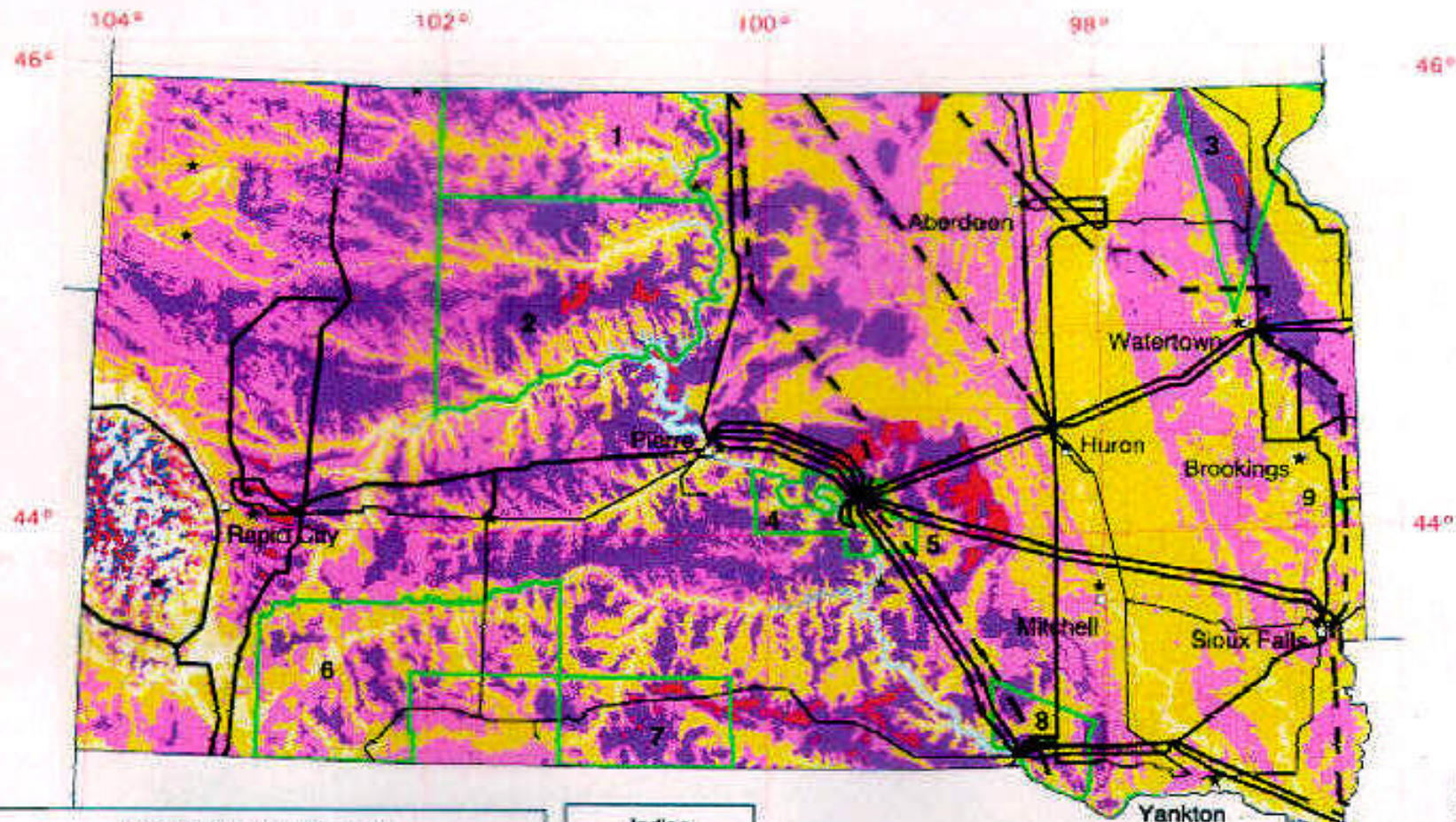
## World Class Wind Potential

Germany's Potential: 100 GW

North Dakota's Potential: 250 GW



# South Dakota - Wind Resource Map



## Wind Power Classification

Wind Power Class	Resource Potential	Wind Power Density at 50 m $W/m^2$	Wind Speed <sup>a</sup> at 50 m m/s	Wind Speed <sup>a</sup> at 55 m mph
2	Marginal	200 - 300	5.5 - 6.4	12.5 - 14.3
3	Fair	300 - 400	6.4 - 7.0	14.3 - 15.7
4	Good	400 - 500	7.0 - 7.5	15.7 - 16.8
5	Excellent	500 - 600	7.5 - 8.0	16.8 - 17.8
6	Outstanding	600 - 800	8.0 - 8.8	17.8 - 19.7
7	Superb	800 - 1600	8.8 - 11.1	19.7 - 24.6

<sup>a</sup>Wind speeds are based on a Weibull k value of 2.0

## Indian Reservations

- 1 Standing Rock
- 2 Cheyenne River
- 3 Lake Traverse
- 4 Lower Brule
- 5 Crow Creek
- 6 Pine Ridge
- 7 Rosebud
- 8 Yankton
- 9 Flandreau

- ★ Meteorological Station with Wind Data
- City or Town

## Transmission Line Voltage

- 55 Kilovolts
- 115 Kilovolts
- 220 Kilovolts
- 345 Kilovolts



U.S. Department of Energy  
National Renewable Energy Laboratory

